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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,470	01/26/2005	Roeland John Heijna	NL 020697	3646
65913	7590	02/07/2008		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER HUANG, DAVID S	
			ART UNIT 2611	PAPER NUMBER
			NOTIFICATION DATE 02/07/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/522,470

Applicant(s)

HEIJNA, ROELAND JOHN

Examiner

David Huang

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 2 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be **material to patentability** as defined in 37 CFR 1.56.

Specification

3. The disclosure is objected to because of the following informalities: The specification lacks the standard section headings.

Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

4. **Claims 4-9** are objected to because of the following informalities:

Claim 4, line 2, recites "a binary signal (T) in presence of noise". This wording is awkward. It is suggested to applicant to add --the-- prior to "presence of noise".

Claims 5-9 are dependent on claim 4 and contain the same defect.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 8-10** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitations "the first peak detector (17)" and "the second peak detector (18)" in lines 7 and 10, respectively. There is insufficient antecedent basis for this

limitation in the claim. For examination on the merits, the claim limitations will be read as "a first peak detector (17)" and "a second peak detector (18)".

Claim 9 is dependent on claim 8, and contains the same defects.

Claim 10 recites the limitations "the first peak detector (17)" and "the second peak detector (18)" in lines 9 and 12, respectively. There is insufficient antecedent basis for this limitation in the claim. For examination on the merits, the claim limitations will be read as "a first peak detector (17)" and "a second peak detector (18)".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1 and 3** are rejected under 35 U.S.C. 102(b) as being anticipated by Schneider (US 6,377,633).

Regarding **claim 1**, Schneider discloses a method of setting a slice level (SL) in a binary signal (T) in presence of noise, the binary signal having a first signal level (A) during a first signal portion and a second signal level (B) during a second signal portion, the method comprising the steps of:

setting the slice level (SL) initially at a level intermediate the first (A) and the second (B) signal level (column 7, lines 8-14),

providing a noise indication (Vcon) by measuring a first noise level (X) (positive peak register, column 3, lines 45-50) during the first signal portion (column 3, lines 58-61), and

adjusting the slice level (SL) using the noise indication (Vcon) (column 3, lines 62-65),
characterized in that

the step of providing a noise indication (Vcon) includes measuring a second noise level
(Y) during the second signal portion (negative peak register, column 3, lines 45-50), and in that

the step of adjusting the slice level (SL) includes adjusting the slice level substantially
uniformly during both the first and the second signal portions (threshold signal value used to
determine the mid-bit reference; column 3, lines 58-65; the same adjusted mid-bit reference is
used to distinguish between both binary zero and one).

Regarding **claim 3**, Schneider discloses everything claimed as applied to claim 1 above,
and further discloses measuring the respective noise levels (X, Y) involves detecting peaks in the
binary signal (T) (Negative and positive peak registers, column 3, lines 45-50; see also Figure 4,
registers 56 and 58).

9. **Claims 4 and 5** rejected under 35 U.S.C. 102(b) as being anticipated by Nagaraj (US
6,041,084).

Regarding **claim 4**, Nagaraj discloses a device (10) for setting the slice level (SL) in a
binary signal (T) in presence of noise, characterized by:

a first level shift means (11) (VOS 18, Figure 4) coupled between a pair of input
terminals (15) (V_{OP} and V_{ON} , Figure 4) for receiving the binary signal (T) (V_{OP} and V_{ON} , column
3, lines 57-59, Figure 4) and a pair of output terminals (16) (V_{OP2} , V_{ON2} , Figure 4) for supplying
the adjusted binary signal,

a second level shift means (12) coupled to the pair of input terminals (15) (V_{OS} 18, Figure 4, also interpreted to be the “second” level shift means, since it also provides shifted input signals to the noise peak detection below),

a noise peak level detection means (13) (20H and 20L, Figure 4) coupled to the second level shift means (12) for receiving shifted input signals and producing a noise indication signal (V_{con}) (offset voltage V_{OS} , column 3, line 65 - column 4, line 4, Figure 4) indicative of any difference in noise levels between signal portions having different signal levels (A,B), and

an adjustment connection (14) for feeding the noise indication signal (V_{con}) to both the first and the second level shift means (11,12) so as to compensate any difference in noise levels (column 4, lines 2-8, Integration 28, Figure 4).

Regarding **claim 5**, Nagaraj discloses everything claimed as applied to claim 4 above, and further discloses the noise peak level detection means (13) comprise a first peak detector (17) for detecting peaks in a first signal level (A) of the binary signal (T) and supplying a first peak detection signal (Positive Peak Det 20H and V_{P1} , Figure 4), a second peak level detector (18) for detecting peaks in a second signal level (B) of the binary signal (T) and supplying a second peak detection signal (Negative Peak Det 20L and V_{P2} , Figure 4), and a differential amplifier for amplifying the difference signal of the first and the second peak detection signal so as to produce the noise indication signal (V_{con}) (AND 26, column 3, line 65 - column 4, line 2, Figure 4).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaraj (US 6,041,084) in view of Bradbeer (US 5,130,543)

Regarding **claim 6**, Nagaraj discloses everything claimed as applied to claim 4 above, but fails to expressly disclose the adjustment connection (14) comprises a low-pass filter (14) for filtering the noise indication signal (Vcon).

Nevertheless, Nagaraj does disclose the output of the differential amplifier 26, is integrated by an integrator circuit.

It is well known in the art that integrators are implemented as low pass filters as evidenced by Bradbeer (column 18, line 68 - column 19, line 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to specify the integrator circuit taught by Nagaraj to be a low pass filter as claimed because low pass filters are well known in the art to be used as integrators.

Allowable Subject Matter

12. **Claims 2 and 7** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. **Claims 8-10** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

The present invention for adjusting a slice level in a binary signal in the presence of noise comprises method steps for setting the slice level initially at a level intermediate the first and second signal levels, providing a noise indication, adjusting the slice level. The closest prior art, Schneider (US 6,377,633), teaches a similar method that also sets the slice level at the midpoint between two signal level, provides peak detection, and adjusts the slice level using the peak detection. However, the closest prior art fails to disclose specifically that the slice level is set at a value substantially equal to half the difference between the magnitudes of the first (A) and the second (B) signal levels minus half the difference between the magnitudes of the first and second noise level. This limitation distinguishes claim 2 over the prior art.

The present invention also discloses a device for setting the slice level in a binary signal in the presence of noise with first and second shift means, a noise peak level detection means and an adjustment connection. The closest prior art, Nagaraj (US 6,041,084), teaches a similar device with variable voltage offset voltage sources, peak detectors, a differential amplifier, and a feedback integrator. However, Nagaraj fails to disclose that the shifting means comprise a series connection of a resistive element, a transistor, and a current source, wherein the bases of the transistors being coupled to receive the noise indication signal (as recited in claim 7). Nagaraj also fails to disclose the noise peak level detection means comprise a RMS level detector and the first and second differential amplifiers for supplying level compensated noise signals to the peak detectors (as recited in claims 8 and 10). These limitations distinguish claims 8 and 10 over the prior art.

Citation of Pertinent Prior Art

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ikeda (US 5,091,920) discloses a threshold value control system that uses both a constant and variable threshold.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Huang whose telephone number is (571) 270-1798. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "Shuwang Liu". The signature is fluid and cursive, with the first name "Shuwang" and the last name "Liu" clearly distinguishable.

SHUWANG LIU
SUPERVISORY PATENT EXAMINER